

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) An internet service provider (ISP) network comprising:
  - a plurality of routers to provide an internet protocol network (IP);
  - a first router, of said plurality of routers, in communication with an internet application, said internet application having a first IP address; and
  - a black-hole router in communication with said plurality of routers, said black-hole router ~~adapted~~ configured to have a bogus IP address that is the same as said first IP address, said bogus IP address having a ~~higher~~ preference higher than a preference for said first IP address;wherein either one of said plurality of routers or said black-hole router is ~~adapted~~ configured to inject a black-hole route scheme into a dynamic routing protocol used by said ISP network such that selected ones of said plurality of routers route traffic to said bogus address of said black-hole router.
2. (Currently amended) The ISP network of claim 1, wherein said dynamic routing protocol is Border Gateway Protocol (BGP).
3. (Original) The ISP network of claim 1, wherein said black-hole route is injected when said internet application is under a Distributed Denial of Service (DDoS) attack.
4. (Original) The ISP network of claim 1, wherein said selected ones of said plurality of routers route traffic to said bogus address via a consistent scheme.

5. (Currently amended) The ISP network of claim 1, wherein said selected ones of said plurality of routers is ~~can be~~ changed in real-time by injecting a new black-hole route scheme into said dynamic routing protocol.

6. (Currently amended) An internet service provider (ISP) network comprising:

a first router in communication with said ISP network;

an internet application, having a first IP address, in communication with said first router, said first router directing internet traffic to said first IP address of said internet application; and

a second router, ~~adapted~~ configured as to be a black-hole router, in communication with said ISP network, said second router ~~adapted~~ configured to receive internet traffic that was originally addressed to said first IP address, but was re-routed through a number of predetermined routers within said ISP network, ~~said~~ the number of predetermined routers being less than all the routers in said ISP network.

7. (Currently amended) The ISP network of claim 6, further comprising a third router in communication with said ISP network, said third router ~~adapted~~ configured to use an Interior Gateway Protocol (IGP) to inject a black-hole address, which is the same as the first IP address, but with a ~~higher~~ preference higher than a preference for said first IP address, into at least said predetermined routers within said ISP network such that internet traffic originally addressed to said first IP address and routed through said predetermined routers is redirected to said second router.

8. (Currently amended) The ISP network of claim 6, wherein said internet traffic originally addressed to said first IP address, but rerouted through predetermined routers comprises ~~possibly~~ both attack traffic and legitimate traffic.

9. (Currently amended) The ISP network of claim 6, wherein said

attack traffic comprises ~~possibly but not limited to~~ at least one of PING and or SYN messages.

10. (Currently amended) The ISP network of claim 8, wherein said internet traffic addressed to said first IP address, but rerouted through predetermined routers comprises ~~possibly~~ both attack traffic and legitimate traffic.

11. (Originally) The ISP network of claim 6, wherein said predetermined routers create consistent routing to said second router.

12. (Original) A method of black-holing internet traffic in an ISP network, said method comprising:  
injecting, by a first router, an instruction into said ISP network;  
responding to said instruction, by a plurality of routers within said ISP network, such that a first number of routers become black-holing routers and a second number of routers become non-black-holing routers;  
routing internet traffic addressed for a first IP address, by said non-black-holing routers, to an internet application having said first IP address; and  
routing internet traffic addressed for said first IP address, by said black-holing routers, to a black-hole router having said first IP address.

13. (Original) The method of claim 12, wherein said instruction is a dynamic routing protocol instruction.

14. (Currently amended) The method of claim 12, wherein said instruction provides a black-holing route injected into a Border Gateway Protocol (BGP)

15. (Original) The method of claim 12, wherein each said black-holing router provides said Internet traffic, routed toward said black-hole router, to a next-hop black-holing router.

16. (Original) The method of claim 12, further comprising, changing the number of said first number of routers and said second number of routers in real-time.

17. (Currently amended) The method of claim 12, wherein the route to said black-hole router having said first IP address has a ~~higher~~ preference higher than a preference for ~~when compared to the preference of the route to said~~ internet application having said first IP address.

18. (Original) The method of claim 12, wherein said steps of routing internet traffic on the router to said black-hole router is consistent routing.

19. (Original) The method of claim 18, wherein consistent routing requires that a black-holing router in said ISP network routes traffic having said first IP address to other black-holing routers and wherein non-black-holing router routes said first IP address to other non-black-holing routers.